

DSM Biomedical BioSpan® S SPU Segmented Polyether Polyurethane (SPU)

Category : Polymer , Thermoplastic , Polyurethane, TP , Thermoplastic Polyurethane (TPUR), Polyether Grade

Material Notes:

The flex life exhibited by BioSpan® SPU enables good performance in many different types of medical devices. This elastomeric polymer has shown the ability to withstand millions of flex cycles. The combination of properties inspires exceptional devices. In addition to excellent flex life, BioSpan® SPU offers a combination of additional properties, including low modulus, high tensile strength, high elongation, proven biocompatibility and good biostability. Because of these properties, it is used in ventricular assist devices as well as in artificial hearts, interventional cardiology balloons, drug eluting stents and spinal implants. Tailor Made BioSpan® SPU can be enhanced with SME® technology to incorporate different surface active end groups such as silicone and fluorocarbon. SME® technology eliminates the need for additional surface modification steps after the device component is fabricated. Summary of Product Benefits Excellent flex life Outstanding mechanical strength Hydrolytically stable Extremely elastic Biocompatible Adaptable with SME® technology Comprehensive FDA Master File Information provided by DSM Biomedical.

Order this product through the following link:

http://www.lookpolymers.com/polymer_DSM-Biomedical-BioSpan-S-SPU-Segmented-Polyether-Polyurethane-SPU.php

Physical Properties	Metric	English	Comments
Water Absorption	1.08 %	1.08 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	38.6 MPa	5600 psi	ASTM D1708
Elongation at Break	847 %	847 %	ASTM D1708
Modulus of Elasticity	0.01037 GPa	1.504 ksi	initial; ASTM D1708
Coefficient of Friction	6.4	6.4	ASTM D1894

Descriptive Properties	Value	Comments
Ames Mutagenicity Assay	Non-mutagenic	
Appearance	Translucent	
Balb/c-3T3 Cell Transformation	Does not induce morphological cell transformation in activated or non-activated test systems	
Chromosome Aberration	Non-genotoxic	
Contact Angle (°)	94	
Hemolysis	Non-hemolytic	
Intracutaneous Injection	Non-toxic	
Kligman's Maximization-CSO extract	Weak allergic potential	

Descriptive Properties	Value	Comments
Eligman's Maximization-NaCl extract	Weak allergic potential	
Lee White Clotting	No effect on the clotting time of whole blood	
Primary Mucosal	Non-irritant	
Primary Skin	Non-irritant	
Repeat Dose IV Study	Non-toxic	
Solution Concentration by Weight (%)	20	
USP Acute Systemic	Non-toxic	
USP Cytotoxicity (MEM Elution)	Non-cytotoxic	
USP Muscle Implantation (120 days/rats)	Macroscopic-not significant tissue contact irritation, Microscopic-slight irritant	
USP Muscle Implantation (14 days/rats)	Macroscopic-not significant tissue contact irritation, Microscopic-Non-irritant	
USP Pyrogen	Non-pyrogenic	

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